CENTER FOR HEALTH STATISTICS

DATA SUMMARY

REPORT REGISTER NO. DS99-09000
(September 1999)

*PROSTATE CANCER
DEATHS
CALIFORNIA, 1988-1997*

Introduction

Prostate cancer is the most frequently diagnosed cancer, other than dermatological cancer, among men in the United States. It is also the second leading cause of cancer death among American men, exceeded only by lung cancer. In 1999, an estimated 179,300 new cases of prostate cancer will be diagnosed in the United States, and 37,000 men will die of this disease according to the American Cancer Society.[1] In California, there will be an estimated 21,180 new cases of prostate cancer, and 3,285 men will die as a result of this disease in the year 2000.[2]

The exact cause of prostate cancer is still unknown, but researchers have found several factors that are consistently associated with an increased risk of developing this disease. Although prostate cancer can occur in men of all ages, 80 percent of the clinically diagnosed cases are among men aged 65 years and older. Further, men who have a family history of prostate cancer are at twice the risk of developing the disease. The risk is even higher with several affected relatives, especially if their relatives were young at the time of diagnosis. Recent genetic studies suggest that an inherited predisposition may be responsible for 5-10 percent of the prostate cancer cases. Prostate cancer also varies in different race/ethnic populations. Black men have the highest risk of developing the disease, and are more than twice as likely to die of prostate cancer than White men. Other risk factors that may possibly be associated with an increased risk of developing prostate cancer include: a diet high in fat; lack of physical activity; and being overweight.

Unlike breast cancer, where clinical trials have clearly demonstrated a decrease in mortality following screening, many uncertainties remain surrounding the early detection of prostate cancer. Researchers have not conclusively proven whether early detection and treatment of prostate cancer helps extend the lives of men or reduce the incidence of mortality. Further research is also required to better understand the potential risks and benefits of treatment, and the quality of life after treatment. A number of prostate cancer studies underway which may resolve these issues can be found in the National Institutes of Health report, *Planning For Prostate Cancer Research*.[3]

California's prostate cancer mortality data presented in this report were compiled using the latest data available, 1988 to 1997. These data were analyzed by age, race/ethnicity, and county of residence.

To thoroughly measure the effects of prostate cancer among Californians, other epidemiological information such as the extent of the disease at diagnosis and treatment, and survival rates should be examined. These data can be obtained from the California Cancer Registry.[4]
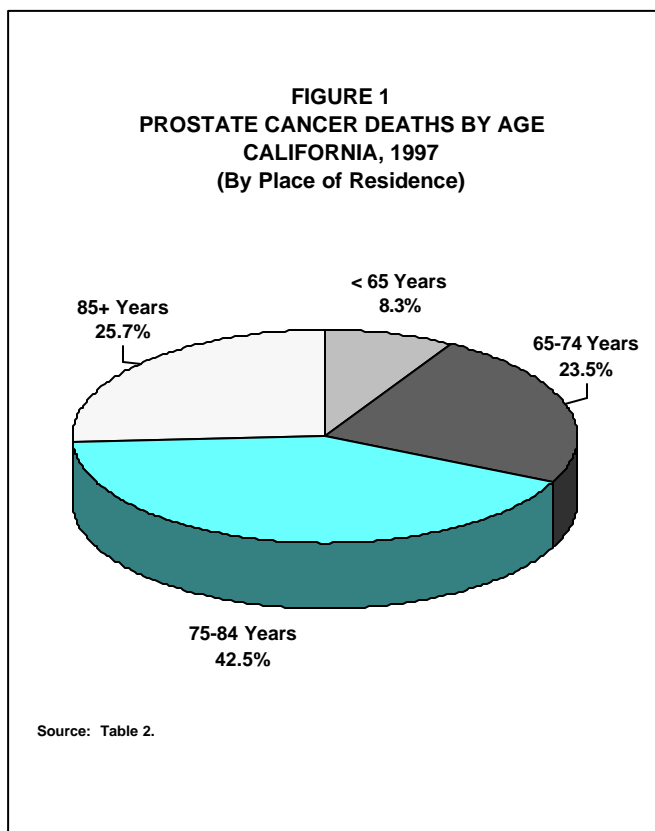
Prostate Cancer Death Numbers

As shown in **Table 1** (page 6), the number of prostate cancer deaths in California progressively increased from 2,834 in 1988 to 3,360 in 1993. Since then, the number of deaths steadily decreased to 3,117 in 1997.

STATE OF CALIFORNIA

Gray Davis, Governor

HEALTH AND HUMAN SERVICES AGENCY

Grantland Johnson, Secretary

DEPARTMENT OF HEALTH SERVICES

Diana M. Bontá, R.N., Dr. P.H., Director

Of the four major race/ethnic groups, White men consistently had the highest number of deaths throughout the ten-year period. The latest data (1997) showed 76.8 percent of the prostate cancer deaths were among White men, while 23.2 percent were collectively among the other three race/ethnic groups.

As illustrated in **Figure 1**, the majority of prostate cancer deaths were among elderly men. In 1997, men aged 65 and over accounted for 91.7 percent of all prostate cancer deaths in California — 23.5 percent among men aged 65-74, 42.5 percent among men aged 75-84, and 25.7 percent among men aged 85 and over. Only 8.3 percent of deaths were among men under 65 years of age.
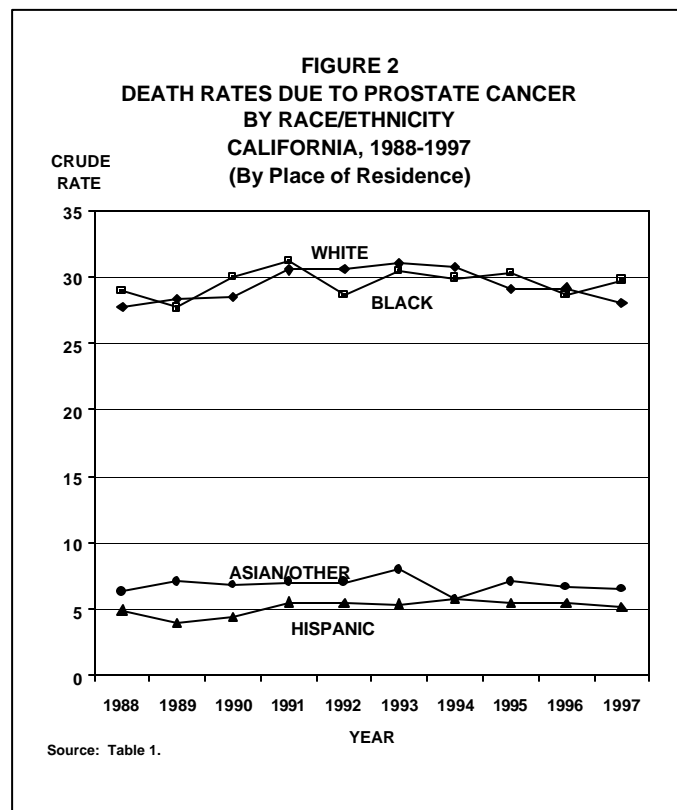

FIGURE 1
PROSTATE CANCER DEATHS BY AGE
CALIFORNIA, 1997
(By Place of Residence)

< 65 Years 8.3%
85+ Years 25.7%
65-74 Years 23.5%
75-84 Years 42.5%

Source: Table 2.

Prostate Cancer Crude Death Rates

Table 1 (page 6) shows California's crude death rate due to prostate cancer was relatively constant from 1988 to 1997. During this period, the rate dropped 5.5 percent from 20.0 per 100,000 population in 1988 to 18.9 in 1997. This downward trend was not statistically significant.

As shown in **Figure 2**, the trend in the prostate cancer death rate was more or less flat among each
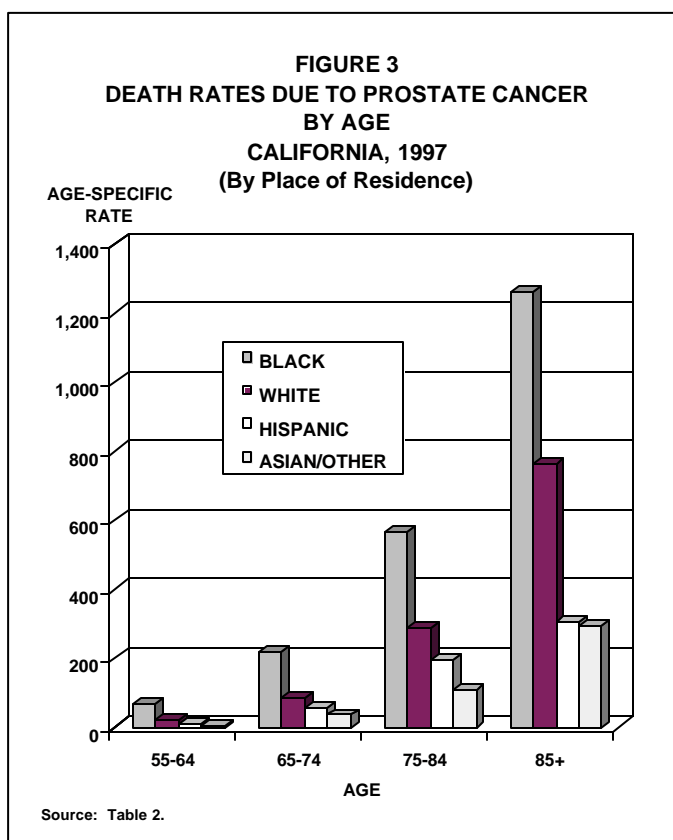
of the four race/ethnic groups from 1988 to 1997. Consequently, none of these groups had a significant upward or downward trend in their prostate cancer death rates during this period. White and Black men, however, had significantly higher rates than Asian/Other and Hispanic men. From 1988 to 1997, rates among White and Black men ranged anywhere from 27.7 per 100,000 population to 31.2, whereas rates among Asian/Other and Hispanic men ranged from 4.0 to 8.0. These differences in rates were over three to one throughout the ten-year period.

FIGURE 2
DEATH RATES DUE TO PROSTATE CANCER
BY RACE/ETHNICITY
CALIFORNIA, 1988-1997
(By Place of Residence)

CRUDE RATE

WHITE
BLACK
ASIAN/OTHER
HISPANIC

YEAR: 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997

Source: Table 1.

Prostate Cancer Age-Specific Death Rates

As noted earlier, there is a direct correlation between prostate cancer and age, in that the risk of developing or dying from this disease becomes greater with age. **Table 2** (page 7) shows California's 1997 age-specific death rate due to prostate cancer was lowest among male Californians under 55 years of age (0.2 per 100,000 population) and progressively increased with age to a high of 666.6 among those aged 85 and over.
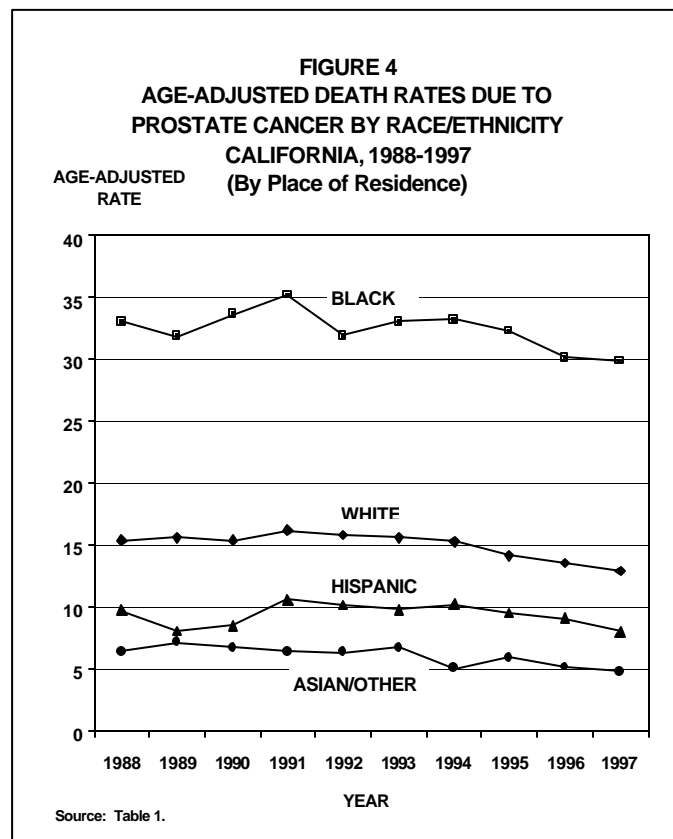
Figure 3 shows California's 1997 age-specific death rates due to prostate cancer by race/ethnicity. During that year, Black men had the highest age-specific death rates in every age group — aged 55-64 (67.6 per 100,000 population), aged 65-74 (216.8), aged 75-84 (564.7), and aged 85 and over (1,263.2). White men had the next highest age-specific death rates in every age category followed by Hispanic men. Asian/Other men had the lowest age-specific death rates — aged 55-64 (3.9), aged 65-74 (35.2), aged 75-84 (105.6), and aged 85 and over (290.6).

FIGURE 3
DEATH RATES DUE TO PROSTATE CANCER
BY AGE
CALIFORNIA, 1997
(By Place of Residence)

Source: Table 2.

Figure 4 shows age-adjusted prostate cancer death rates by race/ethnicity. Of the four race/ethnic groups, Black men had the highest age-adjusted death rate over the ten-year period. Moreover, their rate was over twice as high as the rate among White men. This pattern differs substantially from the crude death rates where Black and White men had comparable rates. Hispanic men had the third highest age-adjusted death rate, while Asian/Other had the lowest. This differs from their respective crude death rates where Asian/Other men had the third highest rate and Hispanics had the lowest.

FIGURE 4
AGE-ADJUSTED DEATH RATES DUE TO
PROSTATE CANCER BY RACE/ETHNICITY
CALIFORNIA, 1988-1997
(By Place of Residence)

Source: Table 1.

Prostate Cancer Age-Adjusted Death Rates

Table 1 (page 6) shows California's age-adjusted prostate cancer death rate declined 18.5 percent from 15.1 per 100,000 population in 1988 to 12.3 in 1997. This downward trend was statistically significant. Further, California's age-adjusted prostate cancer death rate has been below the Year 2010 National Health Objective (17.1 male deaths per 100,000 population)[5] since 1988, and based on the current trend the rate is projected to remain below the objective in the year 2010.

Figure 4 also shows the trend in the age-adjusted prostate cancer death rates by race/ethnicity from 1988 to 1997. During this period, the rate among Black men was 33.1 per 100,000 population in 1988, peaked at 35.2 in 1991, and decreased to 29.9 in 1997. This trend was not statistically significant. Nevertheless, the age-adjusted death rate among Black men has been below the Year 2010 National Health Objective (38.0 Black male deaths per 100,000 population)[5] since 1988, and is projected to remain below the objective in the year 2010 based on the current trend.

The trend in the age-adjusted death rate among White men showed a significant downward trend from 1988 to 1997. Their rate was 15.4 in 1988, increased slightly to 16.2 in 1991, and then steadily declined to 12.9 in 1997. The age-adjusted death rate among White men met the Year 2010 National Objective (14.0 White male deaths per 100,000 population)[5] in 1996, and is projected to remain below the objective based on the current trend.

The rate among Hispanic men showed no statistically significant trend during the ten-year period. Their rate was 9.7 in 1988, increased to 10.6 in 1991, and then variably decreased to 8.0 in 1997. Although the age-adjusted death rate among Hispanic men has been below the Year 2010 National Health Objective (10.9 Hispanic male deaths per 100,000 population)[5] since 1988, the projected rate may not stay below the objective by the year 2010.

The rate among Asian/Other men was 6.4 in 1988, increased slightly the next year to 7.2, and then variably decreased to 4.8 in 1997. The declining trend in their rates was statistically significant. Due to the method used to aggregate the Asian/Other race/ethnic group in this report, the Year 2010 National Health Objective related to this group can not be directly measured.

Prostate Cancer Death Data by County

Table 3 (page 8) shows the 1995-1997 three-year annual average death numbers and rates due to prostate cancer for California's 58 counties. Of these counties, Los Angeles County had the highest number of deaths (791.0), 25.0 percent of all prostate cancer deaths in California (3,162.3). San Diego County had the next highest number of deaths (288.0) followed by Orange County (203.7).

Of the counties with reliable crude death rates, Napa County had the highest (47.0 per 100,000 population) and Santa Clara had the lowest (14.2). The rates for these two counties differed by a factor of 3.3 to 1. Butte County had the second highest rate (39.6) followed by Shasta County (34.5). The rate for California was 19.5.

Napa County had the highest age-adjusted death rate (18.1 per 100,000 population), while San Francisco County had the lowest (10.4) among all of the counties with reliable rates. Solano County had the second highest rate (16.7) followed by Shasta County (16.1). California's rate was 13.0.

Technical Notes

The prostate cancer death data presented in this report were compiled from the Death Statistical Master File using ICD-9 code 185.

The term "significant" within the narrative indicates either statistically significant based on the slope of a least-squares line ($p < 0.05$), or statistically significant based on the difference between two independent rates ($p < 0.05$). Projections were extrapolated using linear regression ($p < 0.05$).

The four race/ethnic groups presented in **Tables 1 and 2** are mutually exclusive. White, Black, and Asian/Other exclude Hispanic ethnicity, while Hispanic includes any race group. In order to remain consistent with the population data obtained from the Department of Finance, the "White race/ethnic group" includes: White, Other (specified), Not Stated, and Unknown. The "Asian/Other race/ethnic group" includes: Aleut, American Indian, Asian Indian, Asian (specified/unspecified), Cambodian, Chinese, Eskimo, Filipino, Guamanian, Hawaiian, Japanese, Korean, Vietnamese, Other Pacific Islander, Samoan, Thai, and Laotian. In addition, caution should be exercised in the interpretation of mortality data by race/ethnicity. Misclassification of race/ethnicity on the death certificate may contribute to death rates that may be underestimated among Hispanic and Asian/Other.[6]

As with any vital statistics data, caution should also be exercised when analyzing small numbers of events, including the rates derived from them. Death rates calculated from small numbers of deaths and/or population tend to be unreliable and subject to significant variation from one year to the next. Consequently, 95 percent confidence intervals and an indicator, "*" (asterisk), denoting rates that have a relative standard error (coefficient of variation) greater than or equal to 23 percent are provided in the data tables as a tool for measuring the reliability of the death rates. Also, **Table 3**

presents three-year annual average death data to increase the reliability of the data by county.

The method used to analyze vital statistics data is important too. Analyzing only the number of deaths has its disadvantages and can be misleading because the population at risk is not taken into consideration. Crude death rates, on the other hand, show the actual rate of dying in a given population, but the age composition of that population is not taken into consideration. Since age is a significant factor when analyzing death rates, the process of age-adjusting the rates removes the effect of age from the population under examination. Age-adjusted death rates, in most cases, are the recommended rates to use when comparing rates over time, between various race/ethnic groups, sexes, and geographic areas. In this report, the 1940 United States (standard million) population was used as the basis for age-adjusting.

For a more complete explanation of the age-adjusting methodology, see the *Healthy People 2000 Statistical Notes* publication.[7] Detailed information on data quality and limitations as well as the formulas used to calculate vital statistics rates are presented in the appendix of the annual report, *Vital Statistics of California*.[8] Another source of information is the Department of Health Services, Center for Health Statistics Home Page – [www.dhs.ca.gov/hisp/chs/chsindex.htm].

References

1. American Cancer Society. The Prostate Cancer Resource Center. [www3.cancer.org/cancerinfo/main_cont.asp?st=wi&ct=36]

2. American Cancer Society, California Division, and Public Health Institute, California Cancer Registry. *California Facts and Figures, 2000.* Oakland, CA: American Cancer Society, California Division, September 1999.

3. U.S. Department of Health and Human Services. *Planning For Prostate Cancer Research: Expanding the Scientific Framework.* National Institute of Health, June 1999.

[www.nci.nih.gov/prostateplan.htm]

4. Department of Health Services California Cancer Registry 601 N. 7th Street, MS #592 P.O. Box 942732 Sacramento, CA 94234-7320 (916) 327-4663, [www.ccrcal.org]

5. U.S. Department of Health and Human Services. *Healthy People 2010 Objectives: Draft for Public Comment.* U.S. Government Printing Office: #ISBN 0-16-049722-1, September, 1998. [www.health.gov/healthypeople/2010draft/object.htm]

6. Hahn RA, Mulinare J, Teutsch SM. Inconsistencies in Coding Race and Ethnicity Between Birth and Death in US Infants. *The Journal of the American Medical Association,* Vol. 267, No. 2, January 1992.

7. Curtin LR, Klein RJ. Direct Standardization (Age-Adjusted Death Rates*). Healthy People 2000 Statistical Notes*. National Center for Health Statistics, DHHS Pub. No. (PHS) 95-1237, March 1995; No. 6-Revised.

8. Riedmiller K, Harms C. *Vital Statistics of California, 1996.* Center for Health Statistics, California Department of Health Services, September 1998.

TABLE 1
DEATHS DUE TO PROSTATE CANCER
BY RACE/ETHNICITY
CALIFORNIA. 1988 - 1997
(By Place of Residence)

YEAR	DEATHS	MALE POPULATION	CRUDE RATE	AGE-ADJUSTED RATE	95% CONFIDENCE LIMITS	
					LOWER	UPPER
TOTAL						
1997	3,117	16,524,576	18.9	12.3	11.9	12.8
1996	3,179	16,227,924	19.6	13.1	12.6	13.5
1995	3,191	16,062,552	19.9	13.7	13.2	14.2
1994	3,321	15,921,009	20.9	14.7	14.1	15.2
1993	3,360	15,782,166	21.3	15.0	14.5	15.6
1992	3,286	15,616,376	21.0	15.2	14.7	15.8
1991	3,275	15,301,183	21.4	15.7	15.2	16.3
1990	2,999	14,989,516	20.0	14.9	14.4	15.5
1989	2,894	14,573,988	19.9	15.1	14.5	15.7
1988	2,834	14,181,700	20.0	15.1	14.5	15.6
WHITE						
1997	2,395	8,527,392	28.1	12.9	12.4	13.5
1996	2,473	8,484,331	29.1	13.6	13.0	14.1
1995	2,471	8,505,279	29.1	14.2	13.6	14.8
1994	2,628	8,533,647	30.8	15.3	14.7	15.9
1993	2,655	8,568,834	31.0	15.6	15.0	16.2
1992	2,625	8,588,891	30.6	15.8	15.2	16.4
1991	2,605	8,528,948	30.5	16.2	15.5	16.8
1990	2,409	8,468,453	28.4	15.4	14.8	16.0
1989	2,363	8,341,063	28.3	15.6	15.0	16.3
1988	2,283	8,229,521	27.7	15.4	14.7	16.0
BLACK						
1997	340	1,142,498	29.8	29.9	26.6	33.1
1996	321	1,121,544	28.6	30.2	26.8	33.5
1995	336	1,108,502	30.3	32.3	28.8	35.8
1994	329	1,099,364	29.9	33.2	29.6	36.9
1993	332	1,090,956	30.4	33.1	29.5	36.7
1992	310	1,080,586	28.7	31.9	28.3	35.5
1991	330	1,058,390	31.2	35.2	31.4	39.0
1990	311	1,037,702	30.0	33.7	29.9	37.4
1989	281	1,015,395	27.7	31.9	28.1	35.7
1988	288	996,423	28.9	33.1	29.2	37.0
HISPANIC						
1997	260	4,993,951	5.2	8.0	7.0	9.0
1996	266	4,830,901	5.5	9.1	8.0	10.2
1995	261	4,715,179	5.5	9.5	8.3	10.7
1994	266	4,605,336	5.8	10.2	9.0	11.5
1993	243	4,492,898	5.4	9.8	8.5	11.0
1992	240	4,374,181	5.5	10.2	8.8	11.5
1991	234	4,211,848	5.6	10.6	9.2	12.0
1990	181	4,050,362	4.5	8.5	7.3	9.8
1989	154	3,860,833	4.0	8.1	6.8	9.4
1988	182	3,676,011	5.0	9.7	8.3	11.2
ASIAN/OTHER						
1997	122	1,860,735	6.6	4.8	3.9	5.7
1996	119	1,791,148	6.6	5.2	4.2	6.1
1995	123	1,733,592	7.1	5.9	4.8	7.0
1994	98	1,682,662	5.8	5.0	4.0	6.1
1993	130	1,629,478	8.0	6.7	5.5	7.9
1992	111	1,572,718	7.1	6.4	5.1	7.6
1991	106	1,501,997	7.1	6.4	5.2	7.6
1990	98	1,432,999	6.8	6.7	5.4	8.0
1989	96	1,356,697	7.1	7.2	5.7	8.6
1988	81	1,279,745	6.3	6.4	5.0	7.8

Note: Rates are per 100,000 population; ICD-9 Code 185.
White, Black, and Asian/Other exclude Hispanic ethnicity. Hispanic includes any race category.

Source: State of California, Department of Finance, Race/Ethnic Population Estimates by County with Age and Sex Detail, 1970-1997, June 1999.
State of California, Department of Health Services, Death Records.

TABLE 2
DEATHS DUE TO PROSTATE CANCER
BY RACE/ETHNICITY AND AGE
CALIFORNIA, 1997
(By Place of Residence)

AGE GROUPS	DEATHS	MALE POPULATION	RATE	95% CONFIDENCE LIMITS	
				LOWER	UPPER
TOTAL					
UNDER 55	32	13,852,425	0.2	0.2	0.3
55-64	227	1,183,049	19.2	16.7	21.7
65-74	733	882,049	83.1	77.1	89.1
75-84	1,324	486,886	271.9	257.3	286.6
85+	801	120,167	666.6	620.4	712.7
WHITE					
UNDER 55	17	6,681,509	0.3 *	0.1	0.4
55-64	149	772,403	19.3	16.2	22.4
65-74	530	620,274	85.4	78.2	92.7
75-84	1,055	368,792	286.1	268.8	303.3
85+	644	84,414	762.9	704.0	821.8
BLACK					
UNDER 55	7	997,328	0.7 *	0.2	1.2
55-64	50	73,960	67.6	48.9	86.3
65-74	97	44,736	216.8	173.7	260.0
75-84	120	21,249	564.7	463.7	665.8
85+	66	5,225	1,263.2	958.4	1,567.9
HISPANIC					
UNDER 55	5	4,582,601	0.1 *	0.0	0.2
55-64	23	208,812	11.0	6.5	15.5
65-74	76	131,786	57.7	44.7	70.6
75-84	103	53,301	193.2	155.9	230.6
85+	53	17,451	303.7	221.9	385.5
ASIAN/OTHER					
UNDER 55	2	1,590,987	0.1 *	0.0	0.3
55-64	5	127,874	3.9 *	0.5	7.3
65-74	30	85,253	35.2	22.6	47.8
75-84	46	43,544	105.6	75.1	136.2
85+	38	13,077	290.6	198.2	383.0

Note: Rates are per 100,000 population; ICD-9 Code 185.

White, Black, and Asian/Other exclude Hispanic ethnicity. Hispanic includes any race category.

* Death rate is unreliable, relative standard error is greater than or equal to 23%.

Source: State of California, Department of Finance, Race/Ethnic Population Estimates by County with Age and
Sex Detail, 1970-1997, June 1999.
State of California, Department of Health Services, Death Records.

TABLE 3
DEATHS DUE TO PROSTATE CANCER
CALIFORNIA COUNTIES, 1995-1997
(By Place of Residence)

COUNTY	1995-1997 DEATHS (AVERAGE)	PERCENT	1996 MALE POPULATION	CRUDE RATE	AGE-ADJUSTED RATE	95% CONFIDENCE LIMITS	
						LOWER	UPPER
CALIFORNIA	3,162.3	100.0	16,227,924	19.5	13.0	12.6	13.5
ALAMEDA	156.7	5.0	674,219	23.2	15.8	13.2	18.4
ALPINE	0.0	0.0	622	0.0 +	0.0 +	-	-
AMADOR	7.0	0.2	17,704	39.5 *	13.9 *	2.3	25.6
BUTTE	38.0	1.2	95,858	39.6	12.1	7.7	16.6
CALAVERAS	8.0	0.3	18,184	44.0 *	17.0 *	4.0	29.9
COLUSA	2.0	0.1	9,303	21.5 *	11.5 *	0.0	29.5
CONTRA COSTA	97.3	3.1	431,163	22.6	14.2	11.3	17.1
DEL NORTE	3.7	0.1	14,876	24.6 *	9.0 *	0.0	19.1
EL DORADO	14.0	0.4	72,322	19.4 *	9.4 *	4.3	14.6
FRESNO	63.3	2.0	382,005	16.6	11.1	8.2	14.1
GLENN	3.3	0.1	13,376	24.9 *	12.0 *	0.0	25.7
HUMBOLDT	17.3	0.5	61,958	28.0 *	15.7 *	7.6	23.7
IMPERIAL	11.0	0.3	72,873	15.1 *	11.1 *	4.2	18.0
INYO	3.3	0.1	8,931	37.3 *	13.9 *	0.0	30.8
KERN	63.3	2.0	317,686	19.9	13.5	10.0	17.0
KINGS	6.0	0.2	62,441	9.6 *	9.4 *	1.5	17.3
LAKE	8.7	0.3	26,753	32.4 *	8.5 *	1.9	15.2
LASSEN	3.0	0.1	20,084	14.9 *	8.6 *	0.0	18.5
LOS ANGELES	791.0	25.0	4,691,319	16.9	13.1	12.1	14.0
MADERA	13.7	0.4	52,931	25.8 *	14.3 *	6.2	22.4
MARIN	32.7	1.0	119,249	27.4	13.9	8.9	18.9
MARIPOSA	5.0	0.2	8,029	62.3 *	18.5 *	1.4	35.6
MENDOCINO	13.0	0.4	42,277	30.7 *	14.1 *	5.9	22.3
MERCED	16.0	0.5	100,076	16.0 *	13.4 *	6.5	20.2
MODOC	2.0	0.1	5,125	39.0 *	12.3 *	0.0	30.1
MONO	0.7	a	5,701	11.7 *	11.6 *	0.0	39.7
MONTEREY	35.0	1.1	187,538	18.7	12.7	8.3	17.1
NAPA	27.7	0.9	58,844	47.0	18.1	10.6	25.7
NEVADA	11.7	0.4	42,879	27.2 *	9.9 *	3.5	16.4
ORANGE	203.7	6.4	1,337,537	15.2	12.2	10.5	13.9
PLACER	26.0	0.8	103,858	25.0	13.7	8.2	19.3
PLUMAS	3.7	0.1	10,100	36.3 *	12.3 *	0.0	26.4
RIVERSIDE	171.0	5.4	696,039	24.6	12.6	10.5	14.6
SACRAMENTO	104.3	3.3	555,690	18.8	12.7	10.2	15.3
SAN BENITO	6.3	0.2	22,237	28.5 *	15.8 *	3.0	28.5
SAN BERNARDINO	136.3	4.3	798,213	17.1	14.1	11.6	16.5
SAN DIEGO	288.0	9.1	1,375,490	20.9	13.9	12.1	15.6
SAN FRANCISCO	89.0	2.8	380,880	23.4	10.4	8.0	12.8
SAN JOAQUIN	63.0	2.0	269,360	23.4	13.6	9.9	17.2
SAN LUIS OBISPO	23.0	0.7	118,885	19.3	8.7 *	4.7	12.6
SAN MATEO	73.0	2.3	344,883	21.2	11.6	8.8	14.4
SANTA BARBARA	44.3	1.4	198,972	22.3	13.0	8.9	17.1
SANTA CLARA	117.7	3.7	831,502	14.2	11.7	9.5	13.8
SANTA CRUZ	28.0	0.9	121,480	23.0	15.4	9.2	21.6
SHASTA	27.3	0.9	79,289	34.5	16.1	9.6	22.5
SIERRA	0.7	a	1,699	39.2 *	23.1 *	0.0	78.4
SISKIYOU	9.7	0.3	21,558	44.8 *	16.4 *	5.3	27.5
SOLANO	37.0	1.2	190,341	19.4	16.7	11.2	22.3
SONOMA	58.7	1.9	208,693	28.1	14.0	10.1	18.0
STANISLAUS	45.7	1.4	206,200	22.1	13.8	9.5	18.1
SUTTER	11.7	0.4	36,956	31.6 *	18.7 *	7.3	30.0
TEHAMA	11.3	0.4	26,655	42.5 *	15.6 *	5.9	25.4
TRINITY	2.3	0.1	6,751	34.6 *	14.7 *	0.0	33.9
TULARE	36.7	1.2	176,246	20.8	13.7	8.9	18.5
TUOLUMNE	10.3	0.3	27,166	38.0 *	16.9 *	5.4	28.4
VENTURA	57.0	1.8	361,055	15.8	10.9	8.0	13.9
YOLO	17.0	0.5	75,628	22.5 *	16.4 *	8.2	24.6
YUBA	5.3	0.2	30,235	17.6 *	13.5 *	1.3	25.7

Note: Rates are per 100,000 population; ICD-9 Code 185.
  * Death rate unreliable (relative standard error is greater than or equal to 23%).
  a Represents a percentage of more than zero but less than 0.05.
  + Standard error indeterminate, death rate based on no (zero) deaths.
  - 95% confidence limit is not calculated for no (zero) deaths.

Source: State of California, Department of Finance, Race/Ethnic Population Estimates by County with Age and Sex Detail, 1970-1997, June 1999.
    State of California, Department of Health Services, Death Records.